

**IN THE CLAIMS**

The following amendment is made to the claims 1 through 43 found in the Annex to the International Preliminary Examination Report.

1. (Original) A hand portable device comprising:
  - a user input device comprising a plurality of sensors in an array for tactile actuation by a user;
  - control means responsive to the actuation of a sensor by itself or the simultaneous actuation of a pair of adjacent sensors;
  - wherein the control means produces one of N control signals upon actuation of a sensor by itself or the simultaneous actuation of an adjacent pair of sensors; and
  - wherein each of the N control signals belong to a first set of control signals or a second set of control signals, wherein each sensor of the array is associated with only one of the control signals of the first set and wherein each of the control signals of the second set is associated with an adjacent pair of sensors in the array, but each adjacent pair of sensors is not associated with a control signal of the second set.
2. (Original) A hand portable device as claimed in claim 1, wherein the plurality of sensors comprises a first set of sensors consisting of a first sensor adjacent a second sensor, constituting a first pair of sensors, and a third sensor adjacent the second sensor, constituting a second pair of sensors; and a second set of sensors consisting of a fourth sensor adjacent a fifth sensor, constituting a third pair of sensors, and a sixth sensor adjacent the fifth sensor, constituting a fourth pair of sensors.
3. (Original) A hand portable device as claimed in claim 2 wherein the pairs of sensors are located and arranged to be simultaneously actuated by a user using one digit.
4. (Currently Amended) A hand portable device as claimed in claim 2 ~~or 3~~ wherein the first set of sensors is adjacent the second set of sensors.
5. (Currently Amended) A hand portable device as claimed in claim 2, ~~3 or 4~~, wherein the control means is responsive to user actuation of a respective one of at least four of the six sensors to provide a respective one of four different control signals and

is responsive to user actuation of a respective one of the first, second, third and fourth pairs of sensors to provides for a respective one of an additional four different control signals.

6. (Currently Amended) A hand portable device as claimed in ~~any preceding~~ claim 1, wherein the control means produces:

- (a) a first control signal in response to the actuation of a second sensor;
- (b) a second control signal in response to the actuation of a first sensor;
- (c) a third control signal in response to actuation of both the first and second sensors simultaneously;
- (d) a fourth control signal in response to the actuation of a third sensor;
- (e) a fifth control signal in response to the actuation of both the second and third sensors simultaneously;
- (f) a sixth control signal in response to the actuation of a fifth sensor;
- (g) a seventh control signal in response to the actuation of both the fifth and sixth sensors simultaneously; and
- (h) an eighth control signal in response to the actuation of both the fourth and fifth sensors simultaneously.

7. (Original) A hand portable device as claimed in claim 6 wherein the control means in response to the actuation of only the fourth sensor produces the second control signal and in response to actuation of only the sixth sensor produces the fourth control signal.

8. (Currently Amended) A hand portable device as claimed in ~~any preceding~~ claim 1 wherein the control means comprises detection means for detecting the simultaneous actuation of keys.

9. (Currently Amended) A hand portable device as claimed in ~~any preceding~~ claim 1 wherein the plurality of sensors is a 2x3 or 3x2 array of sensors.

10. (Currently Amended) A hand portable device as claimed in ~~any preceding claim~~ ~~when dependent upon claim 2~~ claim 2 wherein the user input device is a keypad having

first, second, third, fourth, fifth and sixth keys which respectively actuate the first, second, third, fourth, fifth and sixth sensors whereby the first, second, third and fourth pairs of sensors have corresponding first, second, third and fourth pairs of keys.

11. (Original) A hand portable device as claimed in claim 10 wherein each pair of keys are located and arranged to be simultaneously actuated by a user using one digit.

12. (Currently Amended) A hand portable device as claimed in claim 10 ~~or 11~~ wherein the pairs of keys are located and arranged to be actuated by a user rolling or pivoting one digit.

13. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 12~~, wherein the first, second and third keys are arranged curvilinearly.

14. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 12~~, wherein the first, second and third keys are arranged rectilinearly.

15. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 14~~ wherein the fourth, fifth and sixth keys are arranged substantially parallel to the first, second and third keys.

16. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 15~~, wherein the first, second, third, fourth, fifth and sixth keys form an array.

17. (Currently Amended) A hand portable device as claimed in ~~any preceding~~ claim 1 wherein the first, second, third, fourth, fifth and sixth keys occupy an area not significantly exceeding 20 mm by 15 mm.

18. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 17~~ wherein the keypad comprises a 4x3 array of mobile telephone keys.

19. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10

~~to 17~~ wherein the keypad is a typist's keypad.

20. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 10 ~~to 19~~ having a data entry mode where the keypad including the plurality of keys are used to enter data wherein in said data entry mode the control means is responsive to the actuation of the first key and second key separately but not together to produce different control signals.

21. (Currently Amended) A hand portable device as claimed in ~~any preceding~~ claim 1 further comprising a display for displaying an image including an element moving in the display, wherein the first control signal causes the element to move in a first direction, the second control signal causes the element to move in a second direction and the third control signal causes the element to move in a third direction intermediate of the first and second directions.

22. (Currently Amended) A hand portable device as claimed in ~~any one of~~ claims 1 ~~to 20~~ further comprising a display for displaying an image having a perspective dependent upon a notional viewing position, wherein the first control signal causes the notional viewing position to move in a first direction, the second control signal causes the notional viewing position to move in a second direction and the third control signal causes the notional viewing position to move in a third direction intermediate of the first and second directions.

23. (Original) A method of providing N-way directional control using more than  $N/2$  but less than N sensors to provide N different control signals, wherein each of the N different control signals is a member of either a first set of control signals or a second different set of control signals, the method comprising:

associating each one of the sensors in the array with only one control signal from the first set;

associating each of the control signals of the second set with a pair of sensors without associating each of the pairs of sensors with a control signal of the second set;

detecting when a sensor or sensors of the array are actuated; and

providing the control signal associated with the detected actuated sensor(s).

24. (Original) A user input device for providing 8-way directional control, comprising a first set of sensors consisting of a first sensor adjacent a second sensor, constituting a first pair of sensors, and a third sensor adjacent the second sensor, constituting a second pair of sensors; and

a second set of sensors, adjacent the first set of sensors, consisting of a fourth sensor adjacent a fifth sensor, constituting a third pair of sensors, and a sixth sensor adjacent the fifth sensor, constituting a fourth pair of sensors;

wherein

user actuation of a respective one of at least four of the six sensors provides for control in a respective one of four different directions and

user actuation of a respective one of the first, second, third and fourth pairs of sensors provides for control in a respective one of the remaining four different directions.

25. (Original) A user input device as claimed in claim 24, wherein the pairs of sensors are located and arranged to be simultaneously actuated by a user using one digit.

26. (Currently Amended) A user input device as claimed in claim 24 ~~or 25~~, wherein the plurality of sensors is a 2x3 or 3x2 array of sensors.

27. (Currently Amended) A user input device as claimed in claim 24, ~~25 or 26~~, comprising a keypad having first, second, third, fourth, fifth and sixth keys which respectively actuate the first, second, third, fourth, fifth and sixth sensors whereby the first, second, third and fourth pairs of sensors have corresponding first, second, third and fourth pairs of keys.

28. (Original) A user input device as claimed in claim 27 wherein each pair of keys are located and arranged to be simultaneously actuated by a user using one digit.

29. (Currently Amended) A user input device as claimed in claim 27 ~~or 28~~ wherein the pairs of keys are located and arranged to be actuated by a user rolling or pivoting one

digit.

30. (Currently Amended) A user input device as claimed hand portable device as claimed in ~~any one of~~ claims 27 ~~to~~ 29, wherein the first, second and third keys are arranged curvilinearly.

31. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 29, wherein the first, second and third keys are arranged rectilinearly.

32. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 31 wherein the fourth, fifth and sixth keys are arranged substantially parallel to the first, second and third keys.

33. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 29, wherein the first, second, third, fourth, fifth and sixth keys form an array.

34. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 33, wherein the first, second, third, fourth, fifth and sixth keys occupy an area not significantly exceeding 20 mm by 15 mm.

35. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 34 wherein the keypad comprises a 4x3 array of mobile telephone keys.

36. (Currently Amended) A user input device as claimed in ~~any one of~~ claims 27 ~~to~~ 34, wherein the keypad is a typist's keypad.

37. (Currently Amended) A hand portable device comprising a user input device as claimed in ~~any one of~~ claims 24 ~~to~~ 36, and control means, wherein the control means produces:

- (a) a first control signal in response to the actuation of the second sensor;
- (b) a second control signal in response to the actuation of the first sensor;
- (c) a third control signal in response to actuation of both the first and second

sensors simultaneously;

- (d) a fourth control signal in response to the actuation of the third sensor;
- (e) a fifth control signal in response to the actuation of both the second and third sensors simultaneously;
- (f) a sixth control signal in response to the actuation of the fifth sensor;
- (g) a seventh control signal in response to the actuation of both the fifth and sixth sensors simultaneously; and
- (h) an eighth control signal in response to the actuation of both the fourth and fifth sensors simultaneously.

38. (Original) A hand portable device as claimed in claim 37 wherein the control means in response to the actuation of only the fourth sensor produces the second control signal and in response to actuation of only the sixth sensor produces the fourth control signal.

39. (Currently Amended) A hand portable device as claimed in claim 37 ~~or 38~~, wherein the control means comprises detection means for detecting the simultaneous actuation of keys.

40. (Currently Amended) A hand portable device as claimed in ~~any one of claims 37 to 39~~ having a data entry mode where the keypad including the plurality of keys are used to enter data wherein in said data entry mode the control means is responsive to the actuation of the first key and second key separately but not together to produce different control signals.

41. (Currently Amended) A hand portable device as claimed in ~~any one of claims 37 to 40~~ further comprising a display for displaying an image including an element moving in the display, wherein the first control signal causes the element to move in a first direction, the second control signal causes the element to move in a second direction and the third control signal causes the element to move in a third direction intermediate of the first and second directions.

42. (Currently Amended) A hand portable device as claimed in ~~any one of claims 37 to 40~~, further comprising a display for displaying an image having a perspective dependent upon a notional viewing position, wherein the first control signal causes the notional viewing position to move in a first direction, the second control signal causes the notional viewing position to move in a second direction and the third control signal causes the notional viewing position to move in a third direction intermediate of the first and second directions.

43. (Original) A method of providing 8-way directional control using a user input device comprising a first set of sensors consisting of a first sensor adjacent a second sensor, constituting a first pair of sensors, and a third sensor adjacent the second sensor, constituting a second pair of sensors and a second set of sensors, adjacent the first set of sensors, consisting of a fourth sensor adjacent a fifth sensor, constituting a third pair of sensors, and a sixth sensor adjacent the fifth sensor, constituting a fourth pair of sensors, comprising the steps of:

actuating predetermined ones of the sensors to move in any one of a first four orthogonal directions, and

actuating predetermined ones of the four pairs of the sensors to move in any one of a second four orthogonal directions, off-set by 45 degrees from the first four orthogonal directions.